

14219

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.5)

09/744123

INTERNATIONAL APPLICATION NO.

PCT/AU99/00573

INTERNATIONAL FILING DATE

15 July 1999 (15.06.99)

PRIORITY DATE CLAIMED

20 July 1998 (20.07.98)

TITLE OF INVENTION

IMPROVED QUICK-COOK DEHYDRATED VEGETABLES

APPLICANT(S) FOR DO/EO/US

Victor Marcus Lewis, David Adrian Lewis and Deborah Ann Lewis

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
  - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☒ has been transmitted by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
- ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
- ☒ A copy of the International Search Report (PCT/ISA/210).
- ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
  - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ have been transmitted by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☒ have not been made and will not be made.
- ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
- ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
- ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
- ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

## Items 13 to 20 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☒ Certificate of Mailing by Express Mail
20. ☒ Other items or information:

Courtesy copy of international application

Assignee Byron Australia Pty Ltd.

Assignee Residence: Ruscutters Bay, NSW, Australia

U.S. APPLICATION NO. (IF KNOWN) SEE 37 CFR 1.5) <div style="font-size: 24pt; font-weight: bold;">09/744123</div>	INTERNATIONAL APPLICATION NO. <div style="font-weight: bold;">PCT/AU99/00573</div>	ATTORNEY'S DOCKET NUMBER <div style="font-weight: bold;">14219</div>
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21. The following fees are submitted: <b>BASIC NATIONAL FEE ( 37 CFR 1.492 (a) (1) - (5) ) :</b>				CALCULATIONS PTO USE ONLY	
<input checked="" type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... <span style="float: right;">\$1,000.00</span>					
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... <span style="float: right;">\$860.00</span>					
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... <span style="float: right;">\$710.00</span>					
<input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... <span style="float: right;">\$690.00</span>					
<input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) ..... <span style="float: right;">\$100.00</span>					
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				\$1,000.00	
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).				\$130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	16 - 20 =	0	x \$18.00	\$0.00	
Independent claims	2 - 3 =	0	x \$80.00	\$0.00	
Multiple Dependent Claims (check if applicable).			<input checked="" type="checkbox"/>	\$270.00	
TOTAL OF ABOVE CALCULATIONS =				\$1,400.00	
Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable).				<input type="checkbox"/>	\$0.00
SUBTOTAL =				\$1,400.00	
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).				\$0.00	
TOTAL NATIONAL FEE =				\$1,400.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).				<input type="checkbox"/>	\$0.00
TOTAL FEES ENCLOSED =				\$1,400.00	
				Amount to be:	\$
				refunded	
				charged	\$

☒ A check in the amount of **\$1,400.00** to cover the above fees is enclosed.

☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.

☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **19-1013/SSMP** A duplicate copy of this sheet is enclosed.

**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

**Leopold Presser**  
**SCULLY, SCOTT, MURPHY & PRESSER**  
 400 Garden City Plaza  
 Garden City, New York 11530  
 (516) 742-4343

SIGNATURE

**Leopold Presser**

NAME

**19,827**

REGISTRATION NUMBER

**January 19, 2001**

DATE

09/744123

Docket No.

14219

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR 1.9(f) AND 1.27 (c)) - SMALL BUSINESS CONCERN**

Serial No.	Filing Date Herewith	Patent No. Unassigned	Issue Date Unassigned
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Applicant/ **Victor Marcus Lewis, David Adrian Lewis and Deborah Ann Lewis**

Patentee:

Invention: **IMPROVED QUICK-COOK DEHYDRATED VEGETABLES**

I hereby declare that I am:

- ☐ the owner of the small business concern identified below:  
☐ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: Byron Australia Pty Ltd.ADDRESS OF CONCERN: 19A Boundary Road, Rushcutters Bay, NSW, 2011, Australia

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 37 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above identified invention described in:

- ☐ the specification filed herewith with title as listed above.  
☐ the application identified above.  
☐ the patent identified above.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☐ no such person, concern or organization exists.  
☐ each such person, concern or organization is listed below.

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: DAVID A. LEWIS

TITLE OF PERSON SIGNING \_\_\_\_\_

OTHER THAN OWNER: DIRECTOR

ADDRESS OF PERSON SIGNING: PO Box 597  
Edgecliff NSW 2027

SIGNATURE: \_\_\_\_\_

DATE: 26 Feb '01

## Improved Quick-Cook Dehydrated Vegetables

### Field of the Invention

This invention relates to quick cooking vegetables, more particularly quick cooking  
5 dehydrated vegetables.

### Background of the Invention

Dehydrated vegetables are important items of commerce. They are processed fresh  
vegetables in shelf-stable form and are used extensively in the food industry, particularly to  
10 provide colour, flavour and nutritional benefits to a wide variety of dry packaged foods.

In the packaged food industry they are especially important in cup soups, cup noodles and  
in packaged rice and pasta dishes. These are convenience products and quick cook times  
are regarded as important. In many products the cooking directions call for the addition of  
15 boiling water only, without further cooking. The use of vegetables in these products may  
require the use of expensive freeze-dried vegetables, or else very small dehydrated  
vegetable pieces. As the hot product may take about two to three minutes to cool  
sufficiently to be comfortable to consume, it is desirable that the vegetables be sufficiently  
rehydrated within this time. Conventional dehydrated vegetables, even small pieces, are  
20 usually still hard and gritty after three minutes due to incomplete rehydration. Freeze-dried  
vegetables are expensive and often still spongy in texture after two to three minutes. For  
products cooked in the microwave or on stove top, a desirable cook time is as short as  
possible, preferably below five minutes. It is therefore highly desirable to have an  
economical dehydrated vegetable component that rehydrates quickly enough to be pleasant  
25 to consume after boiling water is added and allowed to stand for two to three minutes, and  
rehydrates back to a natural tasting piece of vegetable.

Alternate quick-cooking dehydrated vegetables such as solute added products (United States  
4683141) or puffed vegetables (United States 3038813) have been described, but neither  
30 appear to give products sufficiently quick-cooking for many convenience packaged foods.

The term "vegetable" as used in this application refers to fresh or frozen fleshy vegetables such as carrots, peas, peppers, tomatoes, sweet corn and such, but does not refer to dry products of vegetable origin such as wheat, corn, dry legumes and such, and dried fruits such as apple.

5

United States 3408209 describes subjecting explosion puffed vegetables as described in United States 3038813 and compressing them for the purpose of reducing their bulk for packaging purposes. There is no claim that this process reduces cooking time.

- 10 There is a need for a dehydrated vegetable product with a cook time of from instant to about five minutes, which is not gritty, has a pleasant texture and mouth feel, and is inexpensive to prepare. It is to be understood that cook time refers to the time at which the vegetable piece is substantially rehydrated to its size prior to dehydration and is free from hard or gritty centres.

15

The result may be achieved by mechanically compressing partially dehydrated vegetable pieces, as by passing between the rolls of a roller mill or by other means, to an extent whereby the pieces are noticeably flattened, but not to such an extent that the texture of the rehydrated product is unacceptably altered from that of a rehydrated vegetable piece which had not been compressed. The vegetable is then further dried to a moisture content of about 5% or lower, or in the case of intermediate moisture products, to a higher level. Surprisingly, the compressed vegetable pieces, when rehydrated, return to much the same size and shape as the original pieces prior to initial dehydration but in a significantly shorter time than untreated dehydrated vegetables.

25

### Summary of the Invention

In one aspect, this invention provides a dehydrated vegetable product which comprises a vegetable piece having a moisture content of about 12% or less which has been compressed preferably in one dimension but still has a substantially intact cellular structure, and which

- 30 on being placed in water at a temperature of 90°C to 100°C is capable of rehydration

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substantially to its original fresh dimension and is of edible tenderness and texture instantly or within five minutes.

In another aspect, this invention provides a dehydrated vegetable product prepared by  
5 partially dehydrating vegetable pieces to a moisture content from about 8% to about 30%,  
compressing the vegetable pieces, and thereafter further dehydrating the vegetable pieces to  
a moisture content of about 12% or lower.

In a further aspect, the invention provides a process for the preparation of a dehydrated,  
10 rapidly rehydrating, vegetable product by compression of a partially dehydrated vegetable  
product.

#### **Detailed Description of the Invention**

This invention is concerned with quick-cooked dehydrated vegetables and in accordance  
15 with one aspect of the invention a dehydrated vegetable product which comprises a  
vegetable piece having a moisture content of about 12% or less which has been compressed  
but still has a substantially intact cellular structure, and which on being placed in water at a  
temperature of 90°C to 100°C is capable of rehydration substantially to its original fresh  
dimension and is of edible tenderness and texture instantly or within five minutes.

In accordance with a further aspect of this invention there is provided a dehydrated  
vegetable product prepared by partially dehydrating vegetable pieces to a moisture content  
from about 8% to about 30%, compressing the vegetable pieces, and thereafter further  
dehydrating the vegetable pieces to a moisture content of about 12% or lower.

25

The term "vegetable" as mentioned above refers to fleshy vegetables, such as carrots, peas,  
peppers, tomatoes, sweet corn, onion, squash, chillies, zucchini, mushroom, cabbage,  
celery, green beans, beetroot, pumpkin, and the like, and including frozen fresh vegetables,  
but excluding dried products of vegetable origin such as wheat, corn, dry legumes and  
30 such, and dried fruits such as apples, apricots and grapes. A "vegetable piece" may  
comprise a small vegetable in its totality, such as a pea, small tomato, sweet-corn kernels,

mushroom and the like. The term "vegetable piece" also includes a vegetable which has been cut to a size suitable for use in the food industry, for example pieces of 10 x 4 x 4 mm.

- 5 In one embodiment, the vegetables may be washed, cut to an appropriate size as needed, optionally blanched and placed in a dehydrator, for example as used to produce dehydrated vegetables. Dehydration may be in hot air, or other forms of dehydration such as vacuum drying may be used. The cut may be dice, slices or julienne style strips. It is preferred that the least (or shortest) dimension should not be more than about 5 mm.

10

Vegetable pieces are partially dehydrated to a moisture content of about 8% to about 30%, preferably from about 8% to about 20%, more preferably about 8% to about 15%. At these moisture contents, the vegetable pieces, particularly when warm, are reasonably plastic. They are then compressed, preferably by passing through a roller mill similar to  
15 that used for flaking grains, or by other means known in the art such as hydraulically between flat plates. The rolls of a mill may be set at a gap between about 0.2 mm to 2.5 mm. The roll gap will depend on the dimensions of the partially dehydrated piece. If the moisture content of the piece is too high, for example greater than 30%, the vegetable may squash on to the rolls of the mill. If it is too dry, for example less than about 8%, it may  
20 shatter. The extent or fineness to which the vegetable is rolled will largely determine the cook time of the finished product. If the piece is rolled too finely, the cook time will be almost instant, but the texture may be mushy. The gap between the rolls will be determined by:

- (i) thickness of the semi-dehydrated vegetable piece;  
25 (ii) the type of vegetable and the variety;  
(iii) the desired cook time;  
(iv) the desired texture of the rehydrated product.

Vegetable pieces are compressed, preferably in one dimension, the compression  
30 maintaining substantially intact cellular structure such that on rehydration, for example in



water of 90°C to 100°C, it is capable of rehydration substantially to its original fresh (that is non-dehydrated) dimensions over a period of up to five minutes.

Intact cellular structure may be determined in a conventional manner, such as by  
5 microscopy of a section.

Dried vegetables which have added solutes can also be prepared in this way, for example, vegetables may contain added solutes in an amount from 0.3% to 10% w/w. The introduction of sugars and salts is described, for example, in Australian Patent No. 532414  
10 or by other methods. Solutes which may be used include salts such as sodium chloride, sodium lactate, and sodium citrate, potassium lactate, or sugars (for example glucose, sucrose, fructose) and others known in the art such as sorbitol. The addition of solutes to the vegetables further accelerates the absorption of water, shortens the cooking time, and may improve the plasticity of the pieces during compression.

15 After compression, the vegetable pieces will have been flattened to a degree depending on the reduction of cook time required. The vegetable pieces may then be further dehydrated to produce a shelf-stable product. Further dehydration results in the rapid loss of moisture since the compressed product gives up its moisture very rapidly as compared to a piece  
20 which has not been compressed. The final moisture content should preferably be of about 12% or lower, such as from about 2% to about 10%, for example, more preferably 4% to 6%.

The compression of the vegetables results in greatly decreased rehydration time of the  
25 vegetable piece. Table 1 presents the effect of compression on rehydration time of compressed dehydrated vegetables with and without the addition of solutes, in this case of sodium chloride.

Table 2 shows the effect of the degree of compression during rolling on the cook time and  
30 texture of dehydrated onion.

**Table 1**

Time required for dehydrated vegetables to stand in water at 90° to 100°C to be sufficiently rehydrated and tender to be very acceptable for eating. All vegetables compressed through 0.5 mm roll gap except peas which were rolled through a 1.5 mm gap.

<b>Vegetable</b> Dimensions are before dehydration	<b>Control Not Rolled</b>	<b>Rolled</b>	<b>5% Solute Added Rolled</b>
Tomato 10 mm peeled dice	8 mins	4 mins	2 mins
Onion 10 mm dice	10 mins	3 mins	1½ mins
Red Bell Peppers 8 x 8 mm dice	6 mins	1½ mins	1 min
Sweet Corn whole kernels	10 mins	4 mins	3 mins
Green Peas	8 mins	4 mins	3 mins
Carrot 10 x 4 x 4 mm dice	6 mins	3 mins	2 mins

5

**Table 2**

Effect of degree of compression on rehydration time of 10 x 10 mm dehydrated onion dice containing 5% salt on standing in water at 90° to 100°C.

<b>Gap Between Rolls</b>	<b>Rehydration Time</b>	<b>Comments</b>
0.3 mm	below 1 min	Rehydrated pieces mushy, did not re-hydrate to original fresh dimensions
" 0.5 mm	1 min	Slightly mushy. Some loss of texture
0.8 mm	2½ mins	Crisp but well rehydrated
Unrolled control	10 mins	Well rehydrated

10 By use of compression as described, varying cook times can be selected for vegetable pieces of almost instant, upwards. The cook time can be varied for each vegetable by adjusting:

1. The initial size of the vegetable piece.
2. The degree of compression.
3. The addition of solutes.

15

4. The nature of the solutes added.

A further advantage of the compressed vegetables is that they have a greater tendency to float on the surface than traditional dehydrated vegetables. This is probably due to their lower bulk density.

Surprisingly unless compressed to an excessive degree the compressed vegetables exhibit surprisingly a marked ability to rehydrate to the initial shape of the fresh vegetable piece.

10 **Example 1**

Onions with a solids content of 14% were peeled and diced, 10x10 mm pieces were dehydrated in a hot air dryer at 70°C to a moisture content of 15%. The partially dried pieces were compressed by passing through a roller mill with a gap of 0.5 mm. The semi-dried onions passed readily through the mill without sticking or shattering. They were then further dried at 60°C to a moisture content of 5%. When placed in a cup with boiling water poured over them, the pieces were sufficiently rehydrated to consume after one and a half minutes.

**Example 2**

20 Peeled carrots with a total solids content of 12% were diced into pieces 10 x 4 x 4 mm. The pieces were steam blanched for one minute, then coated with sufficient salt solution to give a salt content in the final product of 5% w/w. The carrot was dehydrated at 70°C in a hot air dryer to a moisture content of 20%. The pieces were compressed by passing through a roller mill with the gap set at 0.4 mm, and then dried further at 70°C to 5% moisture.

When placed in a cup of boiling water and allowed to stand, the carrot pieces were quite tender and sufficiently rehydrated to eat after two minutes.

30 Dehydrated vegetables with rapid rehydration times can thus be produced by compressing partially dehydrated vegetables for example by passing through the gap of a roller-mill

prior to final dehydration. The increased speed of rehydration can be further increased by the compression of vegetables to which solutes have been added.

Throughout this specification and the claims which follow, unless the context requires  
5 otherwise, the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or steps.

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## Claims

1. A dehydrated shelf stable vegetable product which comprises a vegetable piece having a moisture content of about 12% or less, having a substantially intact cellular structure, prepared by partially dehydrating vegetable pieces to a moisture content from about 8% to about 30%, compressing the vegetable piece in one dimension, and optionally thereafter further dehydrating the compressed vegetable piece to a moisture content of about 12% or lower, wherein the vegetable piece when placed in water at a temperature of 90°C to 100°C without further application of heat is capable of rehydration substantially to its original fresh dimension and is of edible tenderness and texture instantly or within five minutes.
2. A vegetable product according to claim 1 wherein the vegetable is selected from carrots, peas, peppers, tomatoes, sweet corn, onion, squash, chillies, zucchini, mushroom, cabbage, celery, green beans, beetroot, pumpkin, and the like.
3. A vegetable product according to claim 1 or 2 which includes one or more added solutes.
4. A vegetable product according to claim 3 wherein said solutes are selected from sodium chloride, potassium chloride, sodium lactate, potassium lactate, sodium citrate, glucose, sucrose, fructose, sorbitol and other water activity controlling solutes.
5. A vegetable product according to claim 1 having a moisture content from about 2% to about 12%.
6. A vegetable product according to claim 5 having a moisture content from 4% to 6%.

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7. A method according to claim 1 wherein the vegetable piece is dehydrated to a moisture content which is from about 8% to about 20%.
8. A vegetable product according to claim 1 wherein the compressed vegetable piece is further dehydrated to a moisture content from about 2% to about 10%.
9. A process for the preparation of a dehydrated, rapidly rehydrating, vegetable product which comprises partially dehydrating vegetable pieces to a moisture content from about 8% to about 30%, compressing the vegetable piece in one dimension, and optionally thereafter further dehydrating the compressed vegetable piece to a moisture content of about 12% or lower, wherein the vegetable piece when placed in water at a temperature of 90°C to 100°C without further application of heat is capable of rehydration substantially to its original fresh dimension and is of edible tenderness and texture instantly or within five minutes.
10. A process according to claim 9 wherein the vegetable is selected from carrots, peas, peppers, tomatoes, sweet corn, onion, squash, chillies, zucchini, mushroom, cabbage, celery, green beans, beetroot, pumpkin, and the like.
11. A process according to claim 9 wherein prior to compressing the vegetable piece in one dimension one or more solutes are added to the piece.
12. A process according to claim 11 wherein said solutes are selected from sodium chloride, potassium chloride, sodium lactate, potassium lactate, sodium citrate, glucose, sucrose, fructose, sorbitol and other water activity controlling solutes.
13. A process according to claim 9 wherein the compressed vegetable piece is dehydrated to a moisture content from about 2% to about 12%.
14. A process according to claim 13 wherein the vegetable piece is dehydrated to a moisture content from 4% to 6%.

Docket No.  
14219

# Declaration and Power of Attorney For Patent Application

## English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**Victor Marcus Lewis, David Adrian Lewis and Deborah Ann Lewis**

the specification of which

(check one)

☐ is attached hereto.

☒ was filed on July 15, 1999 as United States Application No. or PCT International

Application Number PCT/AU99/00573

and was amended on November 16, 2000

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

<u>PP 4753</u>	<u>Australia</u>	<u>20 July 1998</u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u></u>	<u></u>	<u></u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u></u>	<u></u>	<u></u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

RECEIVED

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Richard L. Catania 32,608

Frank S. DiGiglio 31,346

Edward W. Grolz 33,705

Leopold Presser 19,827

John S. Sensay 28,757

Mark J. Cohen 32,211

Paul J. Esatto, Jr. 30,749

Kenneth L. King 24,223

William C. Roch 24,972

Send Correspondence to:

SCULLY, SCOTT, MURPHY & PRESSER  
400 Gareden City Plaza  
Garden City, New York 11530

Direct Telephone Calls to: (name and telephone number)

Edward W. Grolz (516) 742-4343

Full name of sole or first inventor

Victor Marcus Lewis

Sole or first inventor's signature

Date

X Feb 14, 2001

Residence

19A Boundary Road, Rushcutters Bay, NSW, 2011, Australia

NOX

Citizenship

Australian

Post Office Address

Full name of second inventor, if any

David Adrian Lewis

Second inventor's signature

Date

25 Feb '01

Residence

19A Boundary Road, Rushcutters Bay, NSW, 2011, Australia

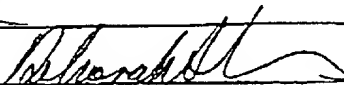
NOX

Citizenship

Australian

Post Office Address

3-00

Full name of third inventor, if any <b>Deborah Ann Lewis</b>	
Third inventor's signature 	Date <b>12 February 2001</b>
Residence <b>19A Boundary Road, Rushcutters Bay, NSW, 2011, Australia</b>	
Citizenship <b>Australian</b>	
Post Office Address	

Full name of fourth inventor, if any	
Fourth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of fifth inventor, if any	
Fifth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of sixth inventor, if any	
Sixth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	